The Center for Coastal Monitoring and Assessment's mission is to assess and forecast coastal and marine ecosystem conditions through research and monitoring.

NOAA's National Status and Trends Program

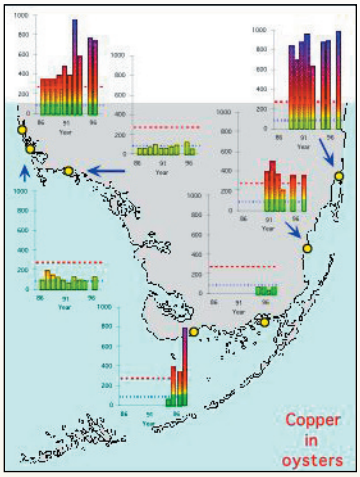
BACKGROUND

The National Oceanic and Atmospheric Administration's (NOAA) Center for Coastal Monitoring and Assessment (CCMA) has maintained the National Status and Trends (NS&T) Program since 1984. This nationwide program of environmental monitoring, assessment and related research is designed to describe the current status of, and detect changes in, the environmental quality of our Nation's estuarine and coastal waters. The NS&T Program gauges the spatial distribution and temporal trends of chemical contamination at a national scale, and develops indicators of environmental contaminant exposure. The data collected by the Program are provided to regional, federal, state and local resource managers and the public via publications, presentations and a website data portal. The data are used to assess the distribution, concentration and extent of chemical impacts at a given point and over time, and are important for planning future resource management and restoration activities.

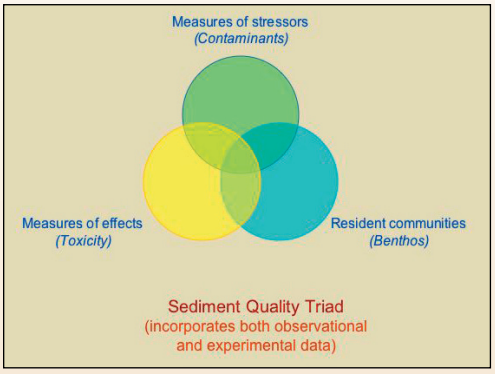
Three key components of the program are the **Mussel Watch Project**, **Bioeffects Assessments, and Eutrophication Studies.**

MUSSEL WATCH PROJECT

The goal of the Mussel Watch Project is to describe the spatial distribution and temporal trends in coastal toxic contamination in areas not in close vicinity of industrial or sewage outfalls or toxic hot spots. This provides a national baseline of ambient contamination concentrations. The Mussel Watch Project samples over 250 sites on all the nation's coasts, including the Great Lakes; data have been gathered for 20 years. Half of the sites are sampled in a given year, and the other half are sampled the following year. Bivalves and sediments are collected and analyzed for a set list of analytes (see http://www.ccma.nos.noaa.gov/cit/data/mw_contaminants.html). The data are used by the scientific and management communities, agency personnel and the general public to assess water quality, environmental health and human health impacts and to plan resource management activities.



Example of Mussel Watch data.



BIOEFFECTS STUDIES

NS&T's Bioeffects Studies are conducted to provide intensive, comprehensive assessments of environmental toxicity in selected regional water bodies, ranging from small bays to large sounds. Thirty multidisciplinary studies have been carried out since 1991 in close cooperation or in partnership with coastal states or regional organizations. Current bioeffects projects include St. Lucie estuary in Florida and the Chesapeake Bay. Study results help coastal managers to identify and prioritize areas for cleanup, restoration or mitigation efforts.

EUTROPHICATION STUDIES

The flagship of NS&T's Eutrophication Studies is the National Estuarine Eutrophication Assessment which conducts periodic assessments of the eutrophic condition, causes of impairment, and future outlook for the Nation's estuaries using a Pressure-State-Response model. In addition to this national level assessment, NS&T also conducts system-specific research in areas with emerging nutrient related pollution issues. For example, NS&T is conducting an assessment of the water quality impacts of poultry farming on the Choptank River Estuary.

This dense bloom of cyanobacteria (blue-green algae) occurred in the Potomac River estuary downstream of Washington, D.C. (W. Bennett, USGS.)

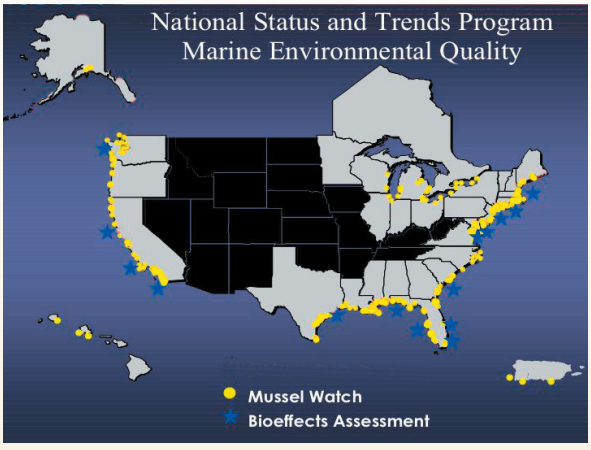
RELATED STUDIES

Quality assurance (QA) and quality control (QC) are provided for all NS&T data collected since 1985. NS&T analytical methods are used worldwide. QA and QC are applied in order to document protocols and to ensure data quality and comparability between laboratories. NS&T also maintains a specimen banking program in conjunction with the National Institute of Standards and Technology, which allows for retrospective analysis. Finally, NS&T periodically conducts special studies, such as assessing the impacts of natural disasters or contaminant spills.

NEW METHODS OF UNDERSTANDING AND COLLABORATION

New and future efforts include developing additional techniques to identify and monitor chemicals that are emerging as concerns for the environment and for human health, such as flame retardants, stain repellants and pharmaceuticals. Further, the NS&T Program is responding to the U.S. Ocean Action Plan by helping to create a national water quality monitoring network and providing data to the Integrated Ocean Observing System.

The NS&T Program is committed to disseminating the Program's data and analyses to resource managers and others interested in using the data, improving access to the data, and increasing awareness of their efforts. To facilitate this, in early 2005, CCMA and NOAA's Special Projects Office created an NS&T website portal: www.ccma.nos.noaa.gov/cit/data. It is designed to provide data and a set of web-based analysis and visualization tools.



Locations of NS&T sampling sites.

National Centers for Coastal Ocean Science
Center for Coastal Monitoring and Assessment
1305 East West Highway, Room 8419, N/SCI1
Silver Spring, MD 20910

Phone: (301) 713-3028 Fax: (301) 713-4388
Email: ccma@noaa.gov
www.ccma.nos.noaa.gov

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